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Title : Report on the Analysis of Failure of a Gear and a Second Stage low pressure Compressor Blade

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Abstract : This report analyses the mode and cause of failure of a gear and a second stage low pressure compressor blade. The gear had failed at the gear tooth roots due to tooth bending fatigue probably caused by excessive loads on the gear tooth.

The compressor blade had fractured at the root on the convex surface of the blade, almost at the mid-portion. The failure was found to be due to fatigue originating from inclusions present at critical locations near the blade root on the convex side.